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The Eruption of Mont Pelee,

AND WHAT IT SUGGESTS.



Whenever a volcanic eruption, like that at Martinique, occurs it brings up before us the whole subject of the disturbances of the inner portions of the earth's crust. What is within the crust or outer covering of this our earth, we know not. We have been down into mines, and artesian wells have been bored to the depth of 2,500 feet. But what is 2,500 feet in comparison with the 7,000 miles of the diameter of the earth! There are few facts to be obtained, and no possible way of obtaining the facts that are so far beyond our reach. Every student of geology knows the old theory as to the formation of the earth. That it was first an indifferent mass—created—how? we know not. But the all-wonderful things about it proves something more than the ability of itself to evolve out of itself some higher and higher condition. No lower matter or form ever had the ability to advance itself—all by itself—to some higher condition. Mere matter, not even of the highest form, ever created anything. Therefore, back of all this, we see, so far as our inferior mortal eyes are able to see, a Creator. All these years, with the zeal of the knights in old King Arthur's time searching

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for the "Holy Grail," the intelligent modern world has been searching for facts. The old theory was that our earth was first an indifferent mass—for many ages not available for the habitation of man. It was a molten mass of matter. The outer surface cooled and formed a crust more or less solid, the inner portions still being a molten mass. The expansion or overflow of this molten matter gave rise to the cause of volcanoes. But the world is less positive in regard to this matter than it was a century ago. The essential facts in the case are not available; and, until the facts are all in, or enough on which to form a correct idea as to the inner secrets of our earth, one good plausible theory is as good as another. We have discovered that large quantities of subtile gases and oils, in some mysterious manner, come up somewhere from the depths of the earth. This is a fact. So far as we have been able to explore what we term the outer crust, we see that it is formed of solid parts and open spaces, much like the formations of vegetables or bones. Gases, in large quantities, often become destructive to life. In some localities the flow of natural gas, somewhere from the interior of the earth, is so abundant and continuous that it is utilized for domestic purposes, for lighting and heating. In some localities the flow of oil is so abundant as to be a large product of consumption and trade. In the times of Zoroaster there were certain localities where fire came out of the ground. As the ancient Persians worshiped fire, such places, with them, were "holy grounds." Here they worshiped. Now, we know that these localities must have been places where natural gas was escaping from confines below. The Persian fire worshipers were undoubtedly very pious, and, undoubtedly, any suggestion to utilize that gas for practical purposes for the good of man would have been regarded by them as impious. But the world of Zoroaster's day and the world of our day are far apart as to what

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is holy and what is for the real advancement of mankind. Whatever advances mankind is truly holy, and, while the modern mind has little respect for the conditions of those ancient days, it has really a high appreciation, and, therefore, more intelligent veneration for the forces of nature. It has utilized these forces and more and more it is investigating them, and, with a zeal that doth not weary, it is ever searching for facts—such facts as shall benefit the world. From such facts as we have, the suggestion that the earth is formed upon the basis of intervals of solid parts and open spaces, would seem to be most plausible. Indeed, the most solid parts themselves are not absolutely solid. As nature “abhors the vacuum,” so she seems to abhor absolute solidity. In these openings or pockets the gases and oils accumulate; they being, as it were, great magazines or storehouses of deposit—the process the while going on, there being no end thereto. The subtile heat of the atmosphere (in the Northern hemisphere) is mostly formed during the warmer months of the year, though sometimes in the cooler months, but never unless there is present a series of areas of low barometer, traveling on a relatively north line, for the United States. This heat generates electricity in the form of what we term lightning, and the accompanying report we term thunder; and above, in the cloud formation brought by the winds from hundreds of miles away, the force which we term electricity is stored. When the conditions are like the charged cannon—when all is ready, an action that results in combustion takes place, and the explosion follows. It does not take place, nor can it take place, until all the conditions are favorable. This we know; and by what takes place above the earth, and of which we know, we judge of the conditions and results below the surface of the earth. The subtile gases and oils are all the while being formed, as it were distilled; they are gathered in the great pockets or maga-

zines within the body of the earth. Where the supply of these subtile agents is small and distributed over a wide area, the earthquake of less or more power is the result. Where the deposits are on a larger scale, the result is the volcano; and the larger the deposits the greater the sub-magazine, the more terrible the volcano.

So soon as the terrible eruption of Mont Pelee was known a scientific expedition was organized to immediately go there for the purpose of studying the great Martinique volcano. Some theories had been advanced, so it was hoped, and even expected, that such a timely visit would either verify the theories advanced, or obtain such important facts as would add to the contributions of science something more tangible than a theory;—that we would obtain such facts as would put the volcano question upon a high scientific basis.

Of the principal theories thus far advanced, one claims that the eruption was due to steam, but does not demonstrate, clearly at least, how water was to be introduced into the crust of the earth, and even then how, in the condition of steam, it was to be generated into such a terrible power. The members of the expedition, in their report, favor electricity, and state that there was evidence of that power. But how this electricity was produced we have no intimation. From the evidence of the weather map, while electricity may at times be an apparent or primary cause, in reality it is only an effect, produced, in open nature, by a very simple process. As above the earth, so beneath its surface, electricity is the result of certain forces, and not an original or primary cause.

It seems queer to read in some work, or paper of high repute, "that explosive gases are evolved during violent volcanic eruptions," or that the explosion is caused by the waters of the ocean in some way reaching the volcano, there not being in these statements the least suggestion from where the power must come to produce such results,

or how the agents in the case are brought together. In 1883, when the great eruption of the volcano at Krakatoa took place, there happened to be at that time a meteorological condition that produced a very delicate red sky. Because of this red sky at this peculiar time many learned men, not familiar with the revelations of the weather map, at once jumped to the conclusion that the red sky at that time was due to the volcano at Krakatoa—on the line of the old Latin quotation, "*Post hoc, ergo propter hoc,*" (After this, therefore on account of this.) This quotation is applicable on some occasions, but there are many times when it is far from being applicable. If one great volcano, and that one-half way around the world, shall produce a certain condition of atmosphere in America, it would seem that a similar volcano, in our immediate neighborhood, should produce a like result. But as yet—now after some weeks—we have not had any red sky effects, for the simple reason that the areas of high and low barometer have not the peculiar relations nor conditions to produce them. The eruption of Mont Pelee was on a large scale, and was the cause of terrible calamities to man. Such calamities reveal the conditions that the modern man has developed—all through his holy zeal in the search of facts. Even a century ago such a catastrophe as that at Krakatoa would not have been known to the people on this side of the globe for months, and then only a few would have known of it. The same with that of Mont Pelee and the other side of the globe. As for the relief and assistance that was sent to the people of Martinique, it would not have been thought of, or, if thought of, been at all practicable.

The ancient world had its piety and its awful veneration and terrible fear for the mysterious forces of nature. To the superficial mind the modern world is wanting in these qualities. We have become more and more familiar with the mysterious forces of nature, at least as to the

application of them for the benefit and utility of mankind. And this it would seem was a higher condition than the veneration and awe of the ancient world, which lacked the ability to utilize these forces for the benefit of mankind.

ISAAC P. NOYES.

WASHINGTON, D. C., *May 26, 1902.*



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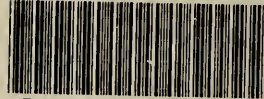


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